




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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/630,704  | 07/31/2003  | Kenji Morikawa       | 11-174              | 1587             |
| 23400   | 7590        | 12/22/2004           | EXAMINER            |                  |
| POSZ & BETHARDS, PLC<br>11250 ROGER BACON DRIVE<br>SUITE 10<br>RESTON, VA 20190 |             |                      | NGUYEN, HANH N      |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2834                |                  |

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |   |
|------------------------------|------------------------|---------------------|---|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |   |
|                              | 10/630,704             | MORIKAWA ET AL.     |   |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |   |
|                              | Nguyen N Hanh          | 2834                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15, 16 and 20 is/are rejected.
- 7) ☒ Claim(s) 17-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Remarks***

1. In response to Election/Restriction requirements, Applicant's election without traverse of Species B (claims 15-20) has been acknowledged.

### ***Specification***

2. The disclosure is objected to because of the following informalities: "substrate 3" in line 19, page 15 should be written as:---substrate 31---; "layers 31" in page 15, line 23 should be written as: ---layers 315---; "resistor 32" in line 21, page 17 should be written as: ---resistor 37---; "resistor 314a" in line 22, page 18 should be written as: ---resistor 37---; "terminal 4" in line 21, page 19 should be written as: --- terminal 41---.

Appropriate correction is required.

### ***Claim Objections***

3. Claim 20 is objected to because of the following informalities: there is no antecedent basis for "the second side portion a hole" in line 10. In lights of the specification, the Examiner interprets "the second side portion a hole" is the portion adjacent to the hole which the steering shaft pass through. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by Sunaga et al.

Regarding claim 15, Sunaga et al. disclose an electric power steering device (preamble, patentable weight not given) comprising: an electric motor (Fig. 1) which is driven by supply of current; a controller including a substrate on which drive devices (30 in Fig. 1 and Col. 4, lines 18-25) working to drive said electric motor are connected electrically, the drive devices including a first drive device (the first electric path) connected electrically between a power supply (25 in Fig. 2) and said electric motor (by means of bus bar 15) and a second drive device (the second electric path) connected electrically between said electric motor and ground (26 in Fig. 2); power supply terminal joints (25 and 26 in Fig. 2) which are provided on the substrate of said controller for receiving the current to be supplied to said electric motor, said power supply terminal joints including a first input terminal leading electrically to a power supply (25) and a second input terminal (26) connected electrically to ground (Col. 5, line 33) ; and motor terminal joints (bus bar 15) which are provided on the substrate of said controller, said motor terminal joints including a first output terminal leading to the first input terminal and a second output terminal leading to the second input terminal for outputting the current to said electric motor, wherein said first and second drive devices are mounted between (Webster's dictionary interprets between as jointly engaging) said power supply terminal joints and said motor terminal joints.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sunaga et al.

Regarding claim 16, Sunaga et al. show all limitations of the claimed invention except showing an electric power steering device wherein said power supply terminal joints are provided on a first end portion of the substrate of said controller, while said motor terminal joints are provided on a second end portion of the substrate opposite the first end portion. It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Sunaga et al. by arranging the second end portion of the substrate opposite the first end portion for the purpose of making the compact substrate, since it has been held that rearranging parts of an invention involves only routine skill in the art.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sunaga et al. in view of Tominaga et al.

Regarding claim 20, Sunaga et al. disclose an electric machine wherein said controller includes a control device (40 in Fig. 1) working to control the current flowing through said electric motor, wherein said first and second drive devices, said power supply terminal joints, and said motor terminal joints are disposed on a first side portion

(14a in Fig. 3) of the substrate of said controller, and said control device is installed on a second side portion (14c) of the substrate, and wherein the substrate of said controller has formed in the side portion of the shaft (Fig. 1). Sunaga et al. fail to show the electric motor works to produce torque assisting in turning a steering shaft of an automotive vehicle.

However, Tominaga et al. disclose an electric motor (4 in Fig. 1) works to produce torque assisting in turning a steering shaft of an automotive vehicle for the purpose of forming a power steering apparatus.

Since Sunaga et al. and Tominaga et al. are in the same field of endeavor, the purpose disclosed by Tominaga et al. would have been recognized in the pertinent art of Sunaga et al.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to use the electric motor of Sunaga et al. as taught by Tominaga et al. for the purpose of forming a power steering apparatus.

***Allowable Subject Matter***

7. Claims 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if claims 17 and 18 are rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 17, the prior art of record does not show the drive device as described in claim 15 wherein said drive devices including first switching transistors

Art Unit: 2834

connected electrically to the power supply and second switching transistors connected electrically to ground, and wherein joints of the first and second switching transistors to the control substrate of said controller are disposed between said power supply terminal joints and said motor terminal joints.

Regarding claim 18, the prior art of record does not show the substrate as described in claim 1 wherein the substrate of said controller has formed thereon a printed circuit which includes a first conductor coupled directly to said first input terminal, a second conductor coupled directly to said second input terminal, a third conductor coupled directly to said first output terminal, and a fourth conductor coupled directly to said second output terminal, and wherein an interval between said power supply terminal joints and said motor terminal joints lies within a range defined by a first straight line extending through outer edges of said first and third conductors and a second straight line extending through outer edges of said second and fourth conductors.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh N Nguyen whose telephone number is (571) 272-2031. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg, can be reached on (571) 272-2044. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

Application/Control Number: 10/630,704

Page 7

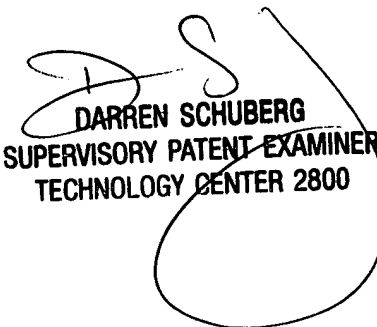
Art Unit: 2834

872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HNN

December 18, 2004

  
DARREN SCHUBERG  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800